EXAMINER"S AMENDMENT AND NOTICE OF ALLOWABILITY

[1]   The following examiner's amendment is in response to the Amendment After Final and

telephone interview on dates 3/13/2008 and 3/28/2008, respectively.

[2]   An examiner's amendment to the record appears below. Should the changes and/or

additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312.

To ensure consideration of such an amendment, it MUST be submitted no later than the payment of

the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with

Joseph Young (Reg. No. 45,248) on 3/28/2008.

The applicant has been amended as follows (next page):

Claims 1 – 4 Canceled

      5. (Previously Presented) A method, comprising:

high pass filtering at least one chrominance component of a color image to compute at least one high pass filtered chrominance component;

applying a high pass filter to a luminance component of the color image to compute a high pass filtered luminance component;

weighting the at least one high pass filtered chrominance component by a weighting factor based upon the high pass filtered luminance component,

wherein the weighting factor includes a sign factor,

wherein the sign factor is negative one when a polarity of the high-pass filtered chrominance information is opposite that of the high-pass filtered luminance signal, and

wherein the sign factor is positive one when the polarity of the high-pass filtered chrominance information is the same as that of the high-pass filtered luminance signal;

modifying a luminance component of the color image based upon the weighted at least one high pass filtered chrominance component; and

generating a monochrome output image based upon the modified luminance component.

6. (Previously Presented) A method, comprising:

high pass filtering at least one chrominance component of a color image to compute at least one high pass filtered chrominance component;

applying a high pass filter to a luminance component of the color image to compute a high pass filtered luminance component;

weighting the at least one high pass filtered chrominance component by a weighting factor based upon the high pass filtered luminance component, wherein the weighting factor includes a high pass filtered luminance factor based upon the magnitude of the high pass filtered luminance component;

modifying a luminance component of the color image based upon the weighted at least one high pass filtered chrominance component; and

generating a monochrome output image based upon the modified luminance component.

7. (Original)   The method of claim 6, wherein the high pass filtered luminance factor is small or zero when the magnitude of the high pass filtered luminance component is large and wherein the HPFL factor is large when the magnitude of the high pass filtered luminance factor approaches zero.

Claims 8 – 13 Canceled

14. (Previously Presented) A system for converting a color image to a grayscale image, comprising:

an image input device that receives a color image having luminance and chrominance components;

an edge detector operably connected to the image input device, the edge detector including a high pass filter for computing high-pass filtered chrominance components from the received chrominance components, wherein the edge detector combines multiple high-pass filtered chrominance components into a single high-pass filtered chrominance component, and wherein the edge detector is also used to compute a high pass filtered luminance component from the received luminance component;

a processing unit operably connected to and between the edge detector and the feedback unit,

wherein the processing unit weights the high-pass-filtered combined chrominance component based upon the high pass filtered luminance component,

wherein the processing unit weights the high-pass-filtered chrominance component based upon a sign factor,

wherein the sign factor is negative one when a polarity of the high-pass filtered chrominance information is opposite that of the high-pass filtered luminance signal, and

wherein the sign factor is positive one when the polarity of the high-pass filtered chrominance information is the same as that of the high-pass filtered luminance signal,

a feedback unit operably connected to the edge detector, wherein the feedback unit modifies the luminance component based upon the high-pass filtered chrominance components; and

an output device operably connected to the feedback unit, wherein the output device receives the modified luminance component and outputs a grayscale image based upon the modified luminance component.

15. (Previously Presented)   A system for converting a color image to a grayscale image, comprising:

an image input device that receives a color image having luminance and chrominance components;

an edge detector operably connected to the image input device, the edge detector including a high pass filter for computing high-pass filtered chrominance components from the received chrominance components, wherein the edge detector combines multiple high-pass filtered chrominance components into a single high-pass filtered chrominance component, and wherein the edge detector is also used to compute a high pass filtered luminance component from the received luminance component;

a processing unit operably connected to and between the edge detector and the feedback unit,

wherein the processing unit weights the high-pass-filtered combined chrominance component based upon the high pass filtered luminance component, and

wherein the processing unit weights the high-pass-filtered combined chrominance component based upon the magnitude of the high pass filtered luminance component;

a feedback unit operably connected to the edge detector, wherein the feedback unit modifies the luminance component based upon the high-pass filtered chrominance components; and

an output device operably connected to the feedback unit, wherein the output device receives the modified luminance component and outputs a grayscale image based upon the modified luminance component.

16. (Original) The system of claim 15, wherein the processing unit weights the high-pass-filtered combined chrominance component such that the weighted high-pass-filtered combined chrominance component is small when the high pass filtered luminance component is large, and the weighted high-pass-filtered combined chrominance component is large when the magnitude of the high-pass-filtered luminance component approaches zero.

Claims 17 – 28 Canceled

[3]   Claims 5-7 and 14-16 allowed. These claims will be renumbered as 1-6.

Conclusion

[4]   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 4291331 A; US 4882626 A; US 5146319 A; US 5333014 A; US 5450216 A; US 20030197674 A1.

[5]   Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Rashid whose telephone number is (571) 270-1578. The examiner can normally be reached Monday - Friday 8:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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